UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,717	07/30/2003	Dae-Gyu Bae	Q76376	6839

23373 7590 03/18/2011

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER	
INGVOLDSTAD, BENNETT	
ART UNIT	PAPER NUMBER
2427	

NOTIFICATION DATE	DELIVERY MODE
03/18/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com
PPROCESSING@SUGHRUE.COM
USPTO@SUGHRUE.COM

Office Action Summary	Application No.	Applicant(s)	
	10/629,717	BAE ET AL.	
	Examiner	Art Unit	
	Bennett Ingvoldstad	2427	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-17,19-22 and 24-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,8-17,19-22 and 24-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 January 2011 has been entered.

Response to Arguments

Applicant's arguments filed 24 January 2011 have been fully considered. Arguments related to the new claim limitations are moot in view of the new rejections. Arguments relating to the previous combination are not persuasive.

Applicant argues that Piotrowski does not teach transmitting the multimedia document at a generated reference clock value. Remarks at 18. The examiner agrees and notes that Kuzma is cited to remedy this deficiency.

Applicant argues that Piotrowski does not teach or suggest a multimedia document transmitter. Remarks at 18. However, Piotrowski teaches transmitting a SMIL document either automatically or by request (para. 0019). For example, a server may transmit the multimedia document to a device (Fig. 1).

Applicant argues that Kuzma does not teach transmitting a current time value. Remarks at 19. The examiner agrees and notes that Eng is cited to remedy this deficiency.

Applicant argues that Piotrowski does not teach that the multimedia document generator/transmitter and the media data generator/transmitter are separate elements as claimed. Remarks at 19, 20. Piotrowski does teach that a server may generate/transmit both the multimedia documents and the media data (see Fig. 1 and description). However, the web server must inherently use different instructions to transmit the SMIL document versus the media data, since they are stored separately

(see Fig. 1). Thus, the separate instructions may be considered separate software modules for implementing the generating/transmitting.

Further, it is obvious to make integrated components separable. See In re Dulberg, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961) (The claimed structure, a lipstick holder with a removable cap, was fully met by the prior art except that in the prior art the cap is "press fitted" and therefore not manually removable. The court held that "if it were considered desirable for any reason to obtain access to the end of [the prior art's] holder to which the cap is applied, it would be obvious to make the cap removable for that purpose."). Therefore, it would be obvious to make the web server separable into two servers for implementing the two separate functions of generating/transmitting the multimedia document and the media data.

Applicant finally argues that Piotrowski does not implement two-way broadcasting. Remarks at 20. However, Piotrowski teaches upstream communication such as requesting interactive content from a web server (para. 0019, Fig. 1). Thus, Piotrowski's broadcast system is a two-way system.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 5, 17, 19, 21 35, 36, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piotrowski (US 2002/0188959) in view of Kuzma (US 5,889,950), further in view of Eng (US 5, 963,557), and further in view of Smith (US 6320600).

Regarding claim 1, Piotrowski teaches an apparatus for transmitting multimedia broadcasting (Fig. 1, el. 19), comprising:

a reference clock generator/transmitter, which generates and transmits a reference clock value of real-time multimedia broadcasting (Para. 25, 31-38: teaching that the system transmits time codes for synchronization; thus implying a generator/transmitter for inserting the time codes into the broadcast);

a multimedia document generator/transmitter, which generates and transmits a multimedia document, i.e. server generates and transmits synchronized SMIL documents (Para. 19, 29-38); and

a media data generator/transmitter, which generates and transmits media data used to render the generated multimedia document, i.e. server generates and transmits supplemental multimedia information for the SMIL document which includes audio and video (Para. 24, 29-38);

wherein the multimedia document is a synchronized multimedia integration language (SMIL) document (Para. 31-38).

Piotrowski does not clearly teach the reference clock value is a current time value of real-time multimedia broadcasting at the transmission and reception

locations; and generating and transmitting a multimedia document scheduled at the generated reference clock value.

Kuzma teaches a multimedia document generator/transmitter, i.e. national or local source, which generates and transmits a multimedia document scheduled at a generated reference clock value, i.e. the broadcaster uses time stamps included in a script to schedule the generation and transmission of a web page (Col. 5, lines 10-21, 28-51; Col. 6, lines 26-34; Col. 7, lines 40-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Piotrowski's multimedia document generator/transmitter to include generating and transmitting a multimedia document scheduled at the generated reference clock value, using the known method of using a script schedule to encode and transmit web pages at the scheduled times, as taught by Kuzma, in combination with the SMIL document generation and transmission system of Piotrowski, for the purpose of scheduling the presentation times for the SMIL multimedia documents, thus allowing the documents to be transmitted in advance.

Piotrowski in view of Kuzma does not clearly teach that the reference clock value is a current time value of real-time multimedia broadcasting at the transmission and reception locations.

Eng teaches a reference clock generator/transmitter, which generates and transmits a reference clock value, which is a current time value of real-time multimedia broadcasting at the transmission and reception locations, i.e. a

synchronizer located at a head-end maintains a system clock and periodically broadcasts time stamps to the subscriber stations in order to maintain synchronization between the head-end and the stations (Col. 17, lines 22-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the reference clock generator/transmitter of Piotrowski in view of Kuzma to generate and transmit a reference clock value which is a current time value of real-time multimedia broadcasting at the transmission and reception locations, using the known method of generating and periodically transmitting a locally generated system clock value to subscriber stations in order to ensure synchronization, as taught by Eng, in combination with the system taught by Piotrowski in view of Kuzma, for the purpose of providing the user with a better overall viewing experience by having the receiver synchronized to the clock at the transmitter, thereby reducing lag time and errors.

Piotrowski already teaches transmitting time codes for synchronizing contents of the broadcast (Para. 38), the time codes thus indicating the time "slot" or "zone" in which contents are displayed. However, Piotrowski does not further teach that each of the reference clock value, the multimedia document, and the media data have the time code data.

Smith teaches a transmission system for transmitting interleaved A/V data in packets using the MPEG format. Each packet has a header containing a timecode for the packet (col. 11, ll. 47-55).

It would have been obvious to apply the teaching of Smith to the transmission of the above combination, thus yielding the predictable result of including a timecode in the packet header of all of the transmitted data. Thus a timecode or "slot" would be associated with all of the transmitted data as claimed, and the data would be presented in synchronization as taught by Piotrowski such that the time codes are all the same (Piotrowski para. 38: discussing using time codes to synchronize data for presentation, i.e. by matching the timecodes).

Regarding claim 3, Piotrowski (Para. 31-38) in view of Kuzma (Col. 5, lines 40-51; Col. 7, lines 40-47) in view of Eng (Col. 17, lines 22-46) teaches the reference clock generator/transmitter, the multimedia document generator/transmitter, and the media data generator/transmitter transmit the reference clock value, the multimedia document, and the media data, respectively, in the form of a predetermined data stream, i.e. transmitting the current date and time, the SMIL document, and the linked media.

Regarding claim 5, Piotrowski in view of Kuzma in view of Eng teaches the reference clock generator/transmitter transmits the reference clock value, which increases by a predetermined value, whenever the reference clock value increases by the predetermined value, i.e. periodically broadcasting the current time to the receiver (Eng-Col. 17, lines 22-46).

Regarding claim 17, claim is analyzed with respect to claim 1. Piotrowski in view of Kuzma in view of Eng further teaches the generating of the reference clock value, the multimedia document, and the media data, respectively, are carried out by at least one processor (Piotrowski-Fig. 1, el. 50; Eng-Col. 17, lines 8-14).

Regarding claim 19, claim is analyzed with respect to claim 3.

Regarding claim 21, claim is analyzed with respect to claim 5.

Regarding claim 35, Piotrowski (Para. 42-45) in view of Kuzma in view of Eng teaches a computer-readable recording medium in which a program for executing the method of claim 17 in a computer is recorded.

Regarding claim 36, Piotrowski (Para. 32-37) in view of Kuzma in view of Eng teaches the media data generator/transmitter generates and transmits media data separately from the generated multimedia document, i.e. the multimedia document contains the URLs that link to the media data.

Regarding claim 38, Piotrowski in view of Kuzma in view of Eng teaches the multimedia broadcasting is interactive two-way broadcasting, e.g. a user may

request synchronized supplemental multimedia information, or play interactive games (Piotrowski-Fig. 1, el. 11, 12, 18; Para. 19, 40, 41).

3. Claims 6, 8, 10-15, 22, 24, 26-31, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piotrowski in view of Blackketter (US 6,415,438) and further in view of Eng and Smith .

Regarding claim 6, Piotrowski teaches an apparatus for receiving multimedia broadcasting (Fig. 1, el. 11, 12, 14), comprising:

a reference clock receiver, which receives a reference clock value of real-time multimedia broadcasting, i.e. receiving a time code embedded in the media (Para. 25, 31-38);

a multimedia document receiver, which receives a first multimedia document (Para. 19, 25, 28, 31-38, 45);

a media data receiver, which receives first media data, i.e. media data may be recorded (Para. 19, 25, 28, 31-38, 44-45); and

a multimedia document renderer, which when the first multimedia document is scheduled at the reference clock value and first media data is a rendering material used to render the first multimedia document, renders the first multimedia document using the first media data (Para. 30-38);

wherein the multimedia document is a synchronized multimedia integration language (SMIL) document (Para. 31-38).

Piotrowski does not clearly teach the reference clock value is a current time value of real-time multimedia broadcasting at the transmission and reception locations; a multimedia document receiver/storage, which receives and stores a multimedia document; and a media data receiver/storage, which receives and stores first media data.

Blackketter teaches a reference clock generator/transmitter, which generates and transmits a reference clock value, which is a current time value of multimedia broadcasting and using the time to schedule multimedia, i.e. the current date and time can be periodically broadcasted to the receiver unit (Col. 5, lines 5-40); and a multimedia document receiver/storage, which receives and stores a multimedia document (Col. 6, line 60-Col. 7, line 7); and a media data receiver/storage, which receives and stores first media data, i.e. prefetching web page content using triggers (Col. 6, line 60-Col. 7, line 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Piotrowski to include generating and transmitting a reference clock value which is a current time value of real-time multimedia broadcasting; the multimedia document receiver/storage, which receives and stores a multimedia document; and a media data receiver/storage, which receives and stores first media data, using the known trigger and prefetching method of Blackketter, for the purpose of eliminating the need for a trigger script and delay loop by using wall-clock time with a trigger transmitted before its associated execution time (Blackketter-Col. 2, lines 39-50).

Eng teaches a synchronizer located at a head-end that maintains a system clock and periodically broadcasts time stamps to the subscriber stations in order to maintain synchronization between the head-end and the stations (Col. 17, lines 22-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the reference clock generator/transmitter of Piotrowski in view of Blackketter to generate and transmit a reference clock value which is a current time value of real-time multimedia broadcasting at the transmission and reception locations, using the known method of generating and periodically transmitting a locally generated system clock value to subscriber stations in order to ensure synchronization, as taught by Eng, in combination with the system taught by Piotrowski in view of Blackketter, for the purpose of providing the user with a better overall viewing experience by having the receiver synchronized to the clock at the transmitter, thereby reducing lag time and errors.

Piotrowski already teaches transmitting time codes for synchronizing contents of the broadcast (Para. 38), the time codes thus indicating the time "slot" or "zone" in which contents are displayed. However, Piotrowski does not further teach that each of the reference clock value, the multimedia document, and the media data have the time code data.

Smith teaches a transmission system for transmitting interleaved A/V data in packets using the MPEG format. Each packet has a header containing a timecode for the packet (col. 11, ll. 47-55).

It would have been obvious to apply the teaching of Smith to the transmission of the above combination, thus yielding the predictable result of including a timecode in the packet header of all of the transmitted data. Thus a timecode or "slot" would be associated with all of the transmitted data as claimed, and the data would be presented in synchronization as taught by Piotrowski such that the time codes are all the same (Piotrowski para. 38: discussing using time codes to synchronize data for presentation, i.e. by matching the timecodes).

Regarding claim 8, Piotrowski (Para. 31-38) in view of Blackketter (Col. 5, lines 5-40) in view of Eng (Col. 17, lines 22-46) teaches the reference clock receiver, the multimedia document receiver/storage, and the media data receiver/storage receive the reference clock value, the first multimedia document, and the first media data, respectively, in the form of a predetermined data stream, i.e. transmitting the current date and time, the SMIL document, and the linked media.

Regarding claim 10, Piotrowski in view of Blackketter in view of Eng teaches the reference clock generator/transmitter transmits the reference clock value, which increases by a predetermined value, whenever the reference clock

value increases by the predetermined value, i.e. periodically broadcasting the current time to the receiver (Blackketter-Col. 5, lines 21-33; Eng-Col. 17, lines 22-46).

Regarding claim 11, Piotrowski in view of Blackketter in view of Eng teaches a first multimedia document is not scheduled at a reference clock value, a multimedia document renderer stands by until receipt of a predetermined reference clock value at which the first multimedia document is scheduled, i.e. the SMIL document media components are scheduled and synchronized using broadcasted trigger time codes (Piotrowski-Para. 31-38; Blackketter-Col. 5, lines 5-40; Eng-Col. 17, lines 22-46).

Regarding claim 12, Piotrowski in view of Blackketter in view of Eng teaches transmitting a trigger, which contains a future presentation time attribute and a URL, prefetching the information resource contained at the URL, and executing the trigger at the future time (Blackketter-Col. 5, lines 5-40; Col. 6, line 60-Col. 7, line 25). Therefore, Piotrowski in view of Blackketter in view of Eng teaches when the first multimedia document is scheduled at the reference clock value but the first media data is not a rendering material used to render the first multimedia document, the multimedia document renderer holds the first media data in standby and then uses the first media data when rendering a second multimedia document, whose rendering material is the first media data and which

is scheduled at a predetermined reference clock value, i.e. rendering the multimedia document and its associated media data at the scheduled time (Piotrowski-Para. 28; Blackketter-Col. 5, lines 5-40; Col. 6, line 60-Col. 7, line 25; Eng-Col. 17, lines 22-46).

Regarding claim 13, Piotrowski in view of Blackketter in view of Eng teaches transmitting a trigger, which contains a future presentation time attribute and a URL, prefetching the information resource contained at the URL, and executing the trigger at the future time (Blackketter-Col. 5, lines 5-40; Col. 6, line 60-Col. 7, line 25). Therefore, Piotrowski in view of Blackketter in view of Eng teaches when a first multimedia document under rendering is not scheduled at a predetermined increasing reference clock value, i.e. the trigger has expired or the multimedia document is finished (Blackketter-Col. 8, lines 15-49; Col. 10, lines 44-50), the multimedia document renderer stops rendering the first multimedia document and then renders a second multimedia document scheduled at the predetermined increasing reference clock value when the second multimedia document has been stored, i.e. the trigger for the new multimedia document is executed and the document is rendered (Blackketter-Col. 5, lines 5-40; Col. 6, line 60-Col. 7, line 25; Eng-Col. 17, lines 22-46).

Regarding claim 14, Piotrowski in view of Blackketter in view of Eng teaches transmitting a trigger, which contains a future presentation time attribute

and a URL, prefetching the information resource contained at the URL, and executing the trigger at the future time (Blackketter-Col. 5, lines 5-40; Col. 6, line 60-Col. 7, line 25). Therefore, Piotrowski in view of Blackketter in view of Eng teaches when a first multimedia document under rendering is not scheduled at a predetermined increasing reference clock value, i.e. the trigger has expired or the multimedia document is finished (Blackketter-Col. 8, lines 15-49; Col. 10, lines 44-50), the multimedia document renderer stops rendering the first multimedia document and then receives and stores a second multimedia document scheduled at the predetermined increasing reference clock value when the second multimedia document has not been stored (Blackketter-Col. 5, lines 5-40; Col. 6, line 60-Col. 7, line 25; Eng-Col. 17, lines 22-46).

Regarding claim 15, Piotrowski in view of Blackketter in view of Eng teaches transmitting a trigger, which contains a future presentation time attribute and a URL, prefetching the information resource contained at the URL, and executing the trigger at the future time (Blackketter-Col. 5, lines 5-40; Col. 6, line 60-Col. 7, line 25). Therefore, Piotrowski in view of Blackketter in view of Eng teaches when a first multimedia document under rendering is not scheduled at a predetermined increasing reference clock value, i.e. the trigger has expired or the multimedia document is finished (Blackketter-Col. 8, lines 15-49; Col. 10, lines 44-50), the multimedia document renderer stops rendering the first multimedia document and then receives and stores second media data used to render a

second multimedia document scheduled at the predetermined increasing reference clock value when the second multimedia document has been stored, but the second media data has not been stored, i.e. the second multimedia document has been prefetched (Piotrowski-Para. 28; Blackketter-Col. 5, lines 5-40; Col. 6, line 60-Col. 7, line 25; Eng-Col. 17, lines 22-46).

Regarding claim 22, claim is analyzed with respect to claim 6. Piotrowski in view of Blackketter in view of Eng further teaches the generating of the reference clock value, the multimedia document, and the media data, respectively, are carried out by at least one processor (Piotrowski-Fig. 1, el. 50; Eng-Col. 17, lines 8-14).

Regarding claim 24, claim is analyzed with respect to claim 8.

Regarding claim 26, claim is analyzed with respect to claim 10.

Regarding claim 27, claim is analyzed with respect to claim 11.

Regarding claim 28, claim is analyzed with respect to claim 12.

Regarding claim 29, claim is analyzed with respect to claim 13.

Regarding claim 30, claim is analyzed with respect to claim 14.

Regarding claim 31, claim is analyzed with respect to claim 15.

Regarding claim 37, Piotrowski (Para. 28, 32-37) in view of Blackketter in view of Eng teaches the media data receiver/storage receives and stores first media data separately from the multimedia document, i.e. the multimedia document contains the URLs that link to the media data.

4. Claims 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piotrowski in view of Kuzma, Blackketter, Eng, and Smith.

Regarding claim 16, Piotrowski teaches an apparatus for transmitting multimedia broadcasting (Fig. 1, el. 19),

which generates and transmits a reference clock value of real-time multimedia broadcasting (Para. 25, 31-38);

a multimedia document, i.e. web server generates and transmits synchronized SMIL documents (Para. 19, 29-38); and

media data used to render the generated multimedia document, i.e. web server generates and transmits supplemental multimedia information which includes audio and video (Para. 24, 29-38); and

an apparatus for receiving multimedia broadcasting (Fig. 1, el. 11, 12, 14),

which receives the reference clock value of real-time multimedia broadcasting, i.e. receiving a time code embedded in the media (Para. 25, 31-38);

receives the multimedia document, (Para. 19, 25, 28, 31-38, 45); and

the media data, i.e. media data may be recorded (Para. 19, 25, 28, 31-38, 44-45); and

when the multimedia document is scheduled at the reference clock value and the media data is a rendering material used to render the multimedia document, renders the multimedia document using the media data (Para. 30-38);

wherein the multimedia document is a synchronized multimedia integration language (SMIL) document (Para. 31-38).

Piotrowski does not clearly teach the reference clock value is a current time value of real-time multimedia broadcasting at the transmission and reception locations; generating and transmitting a multimedia document scheduled at the generated reference clock value; and an apparatus that stores the multimedia document and the media data.

Kuzma teaches a multimedia document generator/transmitter, i.e. national or local source, which generates and transmits a multimedia document scheduled at a generated reference clock value; and an apparatus that receives the multimedia document, i.e. the broadcaster uses time stamps included in a script to schedule the generation and transmission of a web page (Col. 5, lines 10-21, 28-51; Col. 6, lines 26-34; Col. 7, lines 40-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Piotrowski's multimedia document generator/transmitter to include generating and transmitting a multimedia document scheduled at the generated reference clock value, using the known method of using a script schedule to encode and transmit web pages at the scheduled times, as taught by Kuzma, in combination with the SMIL document generation and transmission system of Piotrowski, for the purpose of providing a more efficient method of transmitting supplemental information with a television broadcast.

Piotrowski in view of Kuzma does not clearly teach the reference clock value is a current time value of real-time multimedia broadcasting at the transmission and reception locations; and an apparatus that stores the multimedia document and the media data.

Blackketter teaches a reference clock generator/transmitter, which generates and transmits a reference clock value, which is a current time value of multimedia broadcasting and using the time to schedule multimedia, i.e. the current date and time can be periodically broadcasted to the receiver unit (Col. 5, lines 5-40); an apparatus that receives and stores the multimedia document, and the media data, i.e. prefetching web page content using triggers (Col. 6, line 60-Col. 7, line 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Piotrowski in view of Kuzma to include

generating and transmitting a reference clock value which is a current time value of real-time multimedia broadcasting; and a multimedia document receiver/storage; and an apparatus that stores the multimedia document and the media data, using the known trigger method of Blackketter, for the purpose of eliminating the need for a trigger script and delay loop by using wall-clock time with a trigger transmitted before its associated execution time (Blackketter-Col. 2, lines 39-50).

Eng teaches a reference clock generator/transmitter, which generates and transmits a reference clock value, which is a current time value of real-time multimedia broadcasting at the transmission and reception locations, i.e. a synchronizer located at a head-end maintains a system clock and periodically broadcasts time stamps to the subscriber stations in order to maintain synchronization between the head-end and the stations (Col. 17, lines 22-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the reference clock generator/transmitter of Piotrowski in view of Kuzma in view of Blackketter to generate and transmit a reference clock value which is a current time value of real-time multimedia broadcasting at the transmission and reception locations, using the known method of generating and periodically transmitting a locally generated system clock value to subscriber stations in order to ensure synchronization, as taught by Eng, in combination with the system taught by Piotrowski in view of Kuzma in view of Blackketter, for the purpose of providing

the user with a better overall viewing experience by having the receiver synchronized to the clock at the transmitter, thereby reducing lag time and errors.

Piotrowski already teaches transmitting time codes for synchronizing contents of the broadcast (Para. 38), the time codes thus indicating the time "slot" or "zone" in which contents are displayed. However, Piotrowski does not further teach that each of the reference clock value, the multimedia document, and the media data have the time code data.

Smith teaches a transmission system for transmitting interleaved A/V data in packets using the MPEG format. Each packet has a header containing a timecode for the packet (col. 11, ll. 47-55).

It would have been obvious to apply the teaching of Smith to the transmission of the above combination, thus yielding the predictable result of including a timecode in the packet header of all of the transmitted data. Thus a timecode or "slot" would be associated with all of the transmitted data as claimed, and the data would be presented in synchronization as taught by Piotrowski such that the time codes are all the same (Piotrowski para. 38: discussing using time codes to synchronize data for presentation, i.e. by matching the timecodes).

Regarding claim 32, claim is analyzed with respect to claim 16. Piotrowski in view of Kuzma in view of Blackketter in view of Eng further teaches the generating of the reference clock value, the multimedia document, and the media

data, respectively, are carried out by at least one processor (Piotrowski-Fig. 1, el. 50; Eng-Col. 17, lines 8-14).

5. Claims 4, 20, 33, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piotrowski in view of Kuzma, Eng, Smith and further in view of the Real-Time Streaming Protocol Specification (RFC 2326).

Regarding claim 4, Piotrowski in view of Kuzma in view of Eng teaches all elements of claims 1 and 3.

Piotrowski in view of Kuzma in view of Eng teaches communication with a network using well-known conventional communication protocols (Piotrowski-Para. 22).

Piotrowski in view of Kuzma in view of Eng does not clearly teach the predetermined data stream is composed of type information, time slot information, payload length information, and payload information, the type information indicates whether the predetermined data stream is for the reference clock value, the multimedia document, or the media data, the time slot information indicates a broadcasting time zone in which the reference clock value, the multimedia document, or the media data is scheduled, the payload length information indicates the length of the payload information, and the payload information is substantial data information of the reference clock value, the multimedia document, or the media data.

The RTSP Specification teaches an RTSP response can be composed of type information, (Page 7; Page 30, Sec. 10.2; Page 49, Sec. 12.16, 12.18, 12.19; Page 52, Sec. 12.29; Page 53, Sec. 12.33; Page 79, Sec. C.1.1; Page 80, Sec. C.1.2, C.1.3), time slot information, i.e. range of presentation or time of availability (Page 52, Sec. 12.29; Page 81, Sec. C.1.5, C.1.6), payload length information, i.e. content length (Page 30, Sec. 10.2; Page 49, Sec. 12.14), and payload information, i.e. entity (Page 30, Sec. 10.2; Page 26, Sec. 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Piotrowski in view of Kuzma in view of Eng to include teach the predetermined data stream is composed of type information, time slot information, payload length information, and payload information, the type information indicates whether the predetermined data stream is for the reference clock value, the multimedia document, or the media data, the time slot information indicates a broadcasting time zone in which the reference clock value, the multimedia document, or the media data is scheduled, the payload length information indicates the length of the payload information, and the payload information is substantial data information of the reference clock value, the multimedia document, or the media data, as taught by the RTSP Specification, for the purpose of using a well-known and established communication protocol.

Regarding claim 20, claim is analyzed with respect to claim 4.

Regarding claim 33, claim is analyzed with respect to the combination of claims 1 and 4.

Regarding claim 34, Piotrowski in view of Blackketter in view of Eng in view of the Real-Time Streaming Protocol Specification teaches the type information, the time slot information, the payload length information, and the payload information are sequentially arranged. It would have been obvious to one of ordinary skill in the art at the time the invention was made because sequentially arranging the type information, the time slot information, the payload length information, and the payload information is a predictable variation of the RTSP standard. This enables the receiver to quickly process the RTSP header fields.

6. Claims 9 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piotrowski in view of Blackketter, Eng, Smith, and further in view of the Real-Time Streaming Protocol Specification (RFC 2326).

Regarding claim 9, Piotrowski in view of Blackketter in view of Eng teaches all elements of claims 6 and 8.

Piotrowski in view of Blackketter in view of Eng teaches communication with a network using well-known conventional communication protocols (Piotrowski-Para. 22).

Piotrowski in view of Blackketter in view of Eng does not clearly teach the predetermined data stream is composed of type information, time slot information, payload length information, and payload information, the type information indicates whether the predetermined data stream is for the reference clock value, the multimedia document, or the media data, the time slot information indicates a broadcasting time zone in which the reference clock value, the multimedia document, or the media data is scheduled, the payload length information indicates the length of the payload information, and the payload information is substantial data information of the reference clock value, the multimedia document, or the media data.

The RTSP Specification teaches an RTSP response can be composed of type information, (Page 7; Page 30, Sec. 10.2; Page 49, Sec. 12.16, 12.18, 12.19; Page 52, Sec. 12.29; Page 53, Sec. 12.33; Page 79, Sec. C.1.1; Page 80, Sec. C.1.2, C.1.3), time slot information, i.e. range of presentation or time of availability (Page 52, Sec. 12.29; Page 81, Sec. C.1.5, C.1.6), payload length information, i.e. content length (Page 30, Sec. 10.2; Page 49, Sec. 12.14), and payload information, i.e. entity (Page 30, Sec. 10.2; Page 26, Sec. 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Piotrowski in view of Blackketter in view of Eng to include teach the predetermined data stream is composed of type information, time slot information, payload length information, and payload information, the type information indicates whether the predetermined data

stream is for the reference clock value, the multimedia document, or the media data, the time slot information indicates a broadcasting time zone in which the reference clock value, the multimedia document, or the media data is scheduled, the payload length information indicates the length of the payload information, and the payload information is substantial data information of the reference clock value, the multimedia document, or the media data, as taught by the RTSP Specification, for the purpose of using a well-known and established communication protocol.

Regarding claim 25, claim is analyzed with respect to claim 9.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bennett Ingvoldstad whose telephone number is (571) 270-3431. The examiner can normally be reached on M–F 9–5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on (571) 272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bennett Ingvoldstad/
Examiner, Art Unit 2427

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427